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EG&G

ROCKY FLATS

Final
Proposed Action Memorandum
Remediation of Polychlorinated Biphenyls

Rocky Flats Environmental Restoration Project

July 1995

FINAL
PROPOSED ACTION MEMORANDUM
REMEDIATION OF POLYCHLORINATED BIPHENYLS

U.S. DEPARTMENT OF ENERGY
Rocky Flats Environmental Technology Site
Golden, Colorado

July 1995

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LIST OF ACRONYMS

ARAR	Applicable or Relevant and Appropriate Requirement
CDPHE	Colorado Department of Public Health and Environment
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CLP	Contract Laboratory Program
COC	Contaminant of Concern
DOE	Department of Energy
EPA	Environmental Protection Agency
ERM	Environmental Restoration Management
FFA	Federal Facility Agreement
HRR	Historical Release Report
IA	Industrial Area
NPL	National Priorities List
MRI	Midwest Research Institute
OSWER	Office of Solid Waste and Emergency Response
OU	Operable Unit
PAC	Potential Area of Concern
PCB	Polychlorinated Biphenyl
PIC	Potential Incident of Concern
PRG	Preliminary Remediation Goals
RCRA	Resource Conservation and Recovery Act
RFETS	Rocky Flats Environmental Technology Site
RFFO	Rocky Flats Field Office (Department of Energy)
ROD	Record of Decision
TBC	To Be Considered
TSCA	Toxic Substances Control Act
TSD	Treatment, Storage, and Disposal
UBC	Under Building Contamination
U.S.	United States

1.0 INTRODUCTION/PURPOSE

This proposal will briefly describe the fundamental strategy that will be used to evaluate and remediate areas that are believed to be solely contaminated with polychlorinated biphenyls (PCBs) outside of the Operable Units (OUs) at the Rocky Flats Environmental Technology Site (RFETS).

The purpose of this proposal is to: (1) provide information on the background of PCB contaminated areas at RFETS, (2) describe the proposed action, (3) establish a cleanup level, and (4) provide an implementation schedule.

2.0 BACKGROUND INFORMATION OF AREAS CONTAMINATED WITH PCBs AT RFETS

In March 1993, EG&G Rocky Flats, Inc. (EG&G) Environmental Restoration Management (ERM) submitted to the DOE/RFFO and Region VIII of the Environmental Protection Agency (EPA), a listing of 81 locations previously reported in the Historical Release Report (HRR). This listing addressed Potential Areas of Concern (PACs), Potential Incidents of Concern (PICs), areas contaminated with PCBs, and Under Building Contamination (UBC) sites requiring further investigation. PACs potentially associated with this action include: 300-708, 300-709, 400-800, 500-900, 500-901, 500-902, 500-905, 600-1000, 600-1002, 600-1003, 700-1102, 700-1103, 700-1104, 700-1111, 700-1112, 800-1207, 800-1208, 800-1209, 800-1210, and 900-1306.

According to the HRR, the contamination associated with the PCB sites resulted from electrical equipment (transformers) leaking dielectric fluid containing PCBs or the storage of dielectric fluid contaminated with PCBs. There is no documented evidence in the HRR to support contamination from sources other than the electrical equipment containing dielectric fluid contaminated with PCBs (i.e., the waste should not contain radionuclides or be mixed with RCRA constituents).

The information provided in the HRR has been confirmed by the Sitewide Evaluation of Known, Suspect, and Potential Environmental Releases of PCBs conducted in July of 1991. The evaluation included the selection of sample locations based on historical information, the collection of samples, and sample analysis based on EPA protocols.

Although the Sitewide Evaluation of Known, Suspect, and Potential Environmental Releases of PCBs provided verification of the presence or absence of PCB contamination, additional investigative sampling will be performed to determine the extent of PCB contamination or verify the absence of PCB contamination using the Midwest Research Institute (MRI) approach as described in 40 CFR 761. This sampling and analysis will only be for PCBs since no other Contaminants of Concern (COCs) are suspected.

This action will provide for the removal of PCB contaminated soil to mitigate the potential for migration and spreading of contamination through erosion. The removal action is consistent with the long term remedial action objectives to comply with the TSCA PCB Spill Cleanup Policy and OSWER Directive No. 9355.4-01 FS, August 1990.

3.0 DESCRIPTION OF PROPOSED ACTIONS

The proposed action for areas solely contaminated with PCBs at RFETS that are outside of OUs will include adequate sampling and analysis to determine areal extent, removal of soil and/or structures from the contaminated areas, disposal of waste, and confirmation sampling and analysis. The potentially contaminated areas will be sampled initially for extent using an immunoassay technique (EPA SW-846 Draft Method 4020) or other appropriate method in the field. This technique will provide preliminary information on the areal extent, vertical migration of the contamination and the approximate volume of material that will need to be removed. Samples for immunoassay analysis will be collected and analyzed to provide real-time information during the removal action. This information will be used to direct the remedial field activities. PCB contaminated material will be removed and shipped to a Toxic Substances Control Act (TSCA)-compliant incinerator or approved disposal site.

After removal activities have been completed, confirmation sampling and analysis will be conducted. Samples will be collected using the Midwest Research Institute (MRI) approach as described in 40 CFR 761 to verify that cleanup levels have been achieved. All of the confirmation samples will be analyzed using EPA SW-846 Draft Method 4020. In addition, twenty percent of the confirmation samples will be shipped to an offsite laboratory for analysis using EPA SW-846 Method 8080. Samples taken of concrete pads for confirmation and waste disposal purposes will be destructive samples and will be shipped to an offsite laboratory for analysis using EPA SW-846 Method 8080. The cleanup will be documented in a final report and submitted to the EPA and Colorado Department of Public Health and Environment (CDPHE).

Based on preliminary analytical data, it is anticipated that cleanup will not be required at some of the previously identified locations. Additional sampling and analysis will be conducted and a final report will be prepared based on these results.

If PCB contamination is identified during the investigation of the anticipated No Further Action sites, these sites will be remediated in the future, as described in this proposed action. Schedules and project descriptions will be developed as needed for these actions.

4.0 ESTABLISHMENT OF CLEANUP LEVELS AND PRELIMINARY REMEDIATION GOALS (PRGs)

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) guidance document "A Guide on Remedial Actions at Superfund Sites With PCB Contamination", OSWER Directive No. 9355.4-01 FS, August 1990, includes guidelines for the CERCLA program in setting Preliminary Remediation Goals (PRGs) for PCB-contaminated soils at Superfund sites. At Industrial Areas and restricted access CERCLA sites, a range of 10 to 25 ppm PCBs in surface soil is recommended as a PRG to address threats posed by direct contact. The guidance recommends considering the TSCA PCB Spill Cleanup Policy at 40 CFR 761.120 to establish cleanup criteria. For industrial and other restricted access areas, the TSCA Spill Cleanup Policy recommends a level of 25 ppm PCBs by weight, (nearly equivalent to 25 mg/kg).

The soil cleanup standard for this action will be 25 ppm PCBs with a target of 10 ppm PCBs by weight based on the TSCA PCB Spill Cleanup Policy and OSWER Directive No. 9355.4-01 FS, August 1990. This standard is supported by and is consistent with PCB contaminated soil cleanup requirements established for PCB remediation at other DOE facilities and at industrial facilities located within Region VIII.

The target of 10 ppm PCB will be used in the field to make the initial determination during excavation that clean up levels have been achieved using the immunoassay technique. Although the 10 ppm level is a field target, the level of cleanup conducted, based on the immunoassay results, will be determined by the project manager in the field. This approach is being implemented because of minor analytical differences between the field technique and the off site laboratory analytical methods. If any verification samples taken after excavation exceed 25 ppm PCBs, additional material will be removed until no verification samples exceed 25 ppm PCB.

Based on the PRGs for the Rocky Flats Environmental Technology Site (DOE 1995), the soil cleanup standard of 25 ppm PCBs is well within the acceptable range based on an office worker exposed to soil. The PRG, based on carcinogenic effects for this receptor, for the risk range of 10^{-6} to 10^{-4} , is 0.74 to 74 mg/kg.

5.0 IMPLEMENTATION SCHEDULE

This action will be initiated no sooner than ten days after the approval of the PAM or Sampling and Analysis Plan (SAP), whichever is later, and will be completed within 6 months after final approval of the PAM and SAP, whichever is later.

6.0 NEPA CONSIDERATIONS

The National Environmental Policy Act (NEPA) requires that actions at RFETS be evaluated for potential impacts to the environment. Impacts to the natural environment resulting from this removal action will be minimal and are not expected to result in any adverse impacts to wetlands, floodplains, threatened or endangered species or their habitats, and historic or cultural resources. There will be minor releases of air pollutants from heavy equipment during excavation and a very minor increase in particulates (dust) associated with the operation of trucks loading and unloading drums. The potential exists for chemical exposure to the worker and the environment during excavation, sampling, transportation, and decontamination activities; however, worker exposure will be mitigated with the use of appropriate protective equipment and relevant procedures.

7.0 APPLICABLE OR RELEVANT APPROPRIATE REQUIREMENTS (ARARs)

In accordance with the IAG, an objective of accelerated actions at RFETS is the identification and compliance with Federal and State Applicable or Relevant and Appropriate Requirements (ARARs) and other To-Be-Considered Criteria that are associated with this proposed action. There are three types of ARARs: (1) chemical-specific, (2) location-specific, and (3) action-specific.

Chemical-specific ARARs set concentration limits for soil, groundwater, or surface water for specific pollutants. Cleanup standards for soils contaminated with PCBs are regulated under TSCA. The TSCA PCB Spill Cleanup Policy has been identified as a TBC. Although PCB spills that occurred prior to May 4, 1987 are excluded from 40 CFR 761, Subpart G (EPA's PCB Spill Cleanup Policy), the DOE believes that the cleanup standards in the policy are protective of human health and the environment. The policy establishes a soil cleanup standard of 25 ppm PCBs by weight in restricted areas. The DOE believes that the areas containing PCB contamination identified for remediation in this PAM meet the definition of restricted areas as defined in 40 CFR Section 761.123.

Location-specific ARARs are regulations that set restrictions on activities or contaminant levels based on unique characteristics of the site. No location-specific ARARs have been identified for this PAM because the removal action is not expected to result in any adverse impacts to wetlands, floodplains, threatened or endangered species or their habitats, and historic or cultural resources. Action-specific ARARs set controls or restrictions on particular kinds of activities related to management of hazardous substances or pollutants. The identified action-specific ARARs are listed in Table 7-1.

No other requirements are applicable.

Table 7-1 Action-Specific ARARs for The Remediation of PCB contaminated soil

Action	Requirement	Prerequisite	Citation	ARAR
Container Storage	PCBs at concentrations of 50 ppm or greater and PCB items with a concentration of 50 ppm or greater are subject to storage requirements under 40 CFR 761.65.	Waste oils, fluids or other waste materials initially containing PCBs above 50 ppm must be handled according to TSCA regulations.	40 CFR 761.65	A
	Containers of waste must be: • Maintained in good condition; • Inspect container storage areas every 30 days for deterioration or leaks. • Containers must comply with the shipping container specifications in 761.65.	Waste oils, fluids or other waste materials initially containing PCBs above 50 ppm must be handled according to TSCA regulations.	40 CFR 761.65	A
Labeling	PCB items and containers must be appropriately labeled.	Waste oils, fluids or other wastes materials initially containing PCBs above 50 ppm must be handled according to TSCA regulations.	40 CFR 761.40 and .45	A
Treatment/ Disposal	Disposal of PCBs must be in accordance with 40 CFR 761.60.	Disposal of PCBs at concentrations of 50 ppm or greater must be in accordance with TSCA regulations.	40 CFR 761.60	A
Removal and Storage	Comply with all applicable environmental protection, safety and health standards.	DOE facilities must comply with DOE Orders and promulgated DOE regulations in 10 CFR concerning environmental health and safety.	DOE Order 5480.4	TBC
Removal	Personnel conducting storage and handling operations from which fugitive particulate emissions will be emitted must use all available practical methods to minimize the emissions. *Personnel may use enclosures, cover,* compacting, watering, limitation of fines, and other methods. There may be no off-property emissions.		Regulation 1 and 3, CO Air Quality Control Commission	A

A = Applicable
R&A = Relevant and Appropriate
TBC = To Be Considered